

REMARKS

This Amendment is submitted in reply to the Office Action dated September 18, 2007. The Applicants respectfully request reconsideration and further examination of the patent application under 37 C.F.R. § 1.111.

Applicants acknowledge the Examiner's withdrawal of all previous rejections as moot.

Summary of the Examiner's Rejections

Claims 1-2, 4, 9, 13-14, 16 and 20-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Glazer (US 6,824,866) in view of Meissner (US 5,441,803).

Claim 14 was rejected under 35 U.S.C. 103(a) as being unpatentable over Glazer (US 6,824,866) in view of Meissner (US 5,441,803) in further view of Kuroita (US 5,990,302).

Claim 38 was rejected under 35 U.S.C. 103(a) as being unpatentable over Glazer (US 6,824,866) in view of Sun (US 6,129,603).

Claim 39 was rejected under 35 U.S.C. 103(a) as being unpatentable over Glazer (US 6,824,866) in view of Sun (US 6,129,603) in further view of Meissner (US 5,441,803).

Claims 1, 2, 4, 13, 22, 25, 31 and 38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Havens (US 6,306,348) in view of Meissner (US 5,441,803).

Claim 14 was rejected under 35 U.S.C. 103(a) as being unpatentable over Havens (US 6,306,348) in view of Meissner (US 5,441,803) in further view of Kuroita (US 5,990,302).

Claim 38 was rejected under 35 U.S.C. 103(a) as being unpatentable over Havens (US 6,306,348) in view of Sun (US 6,129,603).

Claim 39 was rejected under 35 U.S.C. 103(a) as being unpatentable over Havens (US 6,306,348) in view of Sun (US 6,129,603) in further view of Meissner (US 5,441,803).

Summary of Amendment

Claims 1 and 39 were amended to more particularly define the present invention. Support for the amendments to Claims 1 and 39 is found, for example, at paragraph [0048] in the specification and at page 23, lines 14-27 in the parent application USSN 09/650,885 (filed August 30, 2000).

Oath/Declaration

Applicants submit herewith a corrected executed Declaration which corrects the identification of the priority document to USSN 10/101,135. The objection to the Declaration is believed to be overcome and should be removed.

§ 103 Rejections

Applicant respectfully submits that amended Claim 1 is patentable over Glazer and Meissner. Glazer and Meissner differ significantly from the substrate recited in amended Claim 1 which now recites "the porous inorganic layer, the glass interlayer, and the flat, rigid, non-porous, inorganic understructure have matching coefficients-of-thermal expansion." Applicant agrees with the Examiner's conclusion that Glazer does not teach the glass interlayer in the claimed substrate. However, Applicant respectfully submits that the recited glass interlayer and the matching coefficients-of-thermal expansion of Claim 1 are not taught or suggested by Meissner. Meissner discloses a diffusion bonded device which includes a first glass containing material, a second glass containing material, and a third glass containing material, where the third glass containing material is positioned as an intervening layer in-between the first and second glass containing materials. The first and second glass containing materials have similar coefficients of thermal expansion but the interposed or intervening third glass containing material has a higher coefficient of thermal expansion than the first and second glass containing materials (e.g., see col. 6, lines 12-34 and col. 11, lines 5-36). This differs from the substrate of claim 1 where the porous inorganic layer, the glass interlayer, and the flat, rigid, non-porous, inorganic understructure have matching coefficients-of-thermal expansion. Thus, Glazer and Meissner fail to teach or suggest all aspects of Claim 1. Accordingly, Applicant respectfully submits that Claim 1 and dependent Claims 2, 4, 9, 13-14, 16 and 20-21 are patentable over Glazer and Meissner, alone or in any suggested combination, and the rejection should be withdrawn.

Moreover, Applicant respectfully submits that there is no reasonable basis or motivation to combine Glazer and Meissner to arrive at Claim 1 since, for example, Glazer fails to teach the claimed substrate having a glass interlayer situated between a porous inorganic layer and a non-porous, inorganic understructure. Meissner mentions a bonded assembly of two single crystal materials (two glass containing materials) which are bonded to one another by gradually heating them to a temperature and for a sufficient time to diffusion bond the surfaces, and then cooling the bonded assembly at a rate which avoids thermal

shock and allows the removal of stress by annealing. Meissner also mentions the use of a third glass containing material which is positioned as an intervening layer between the first and second glass containing materials before the heating and cooling steps to form a composite sandwich structure. Meissner's first and second glass containing materials have similar coefficients of thermal expansion but the third glass containing material has a higher coefficient of thermal expansion. Having differences in the coefficients of thermal expansion causes the resulting composite sandwich structure to be under compressive stress and more resistant to impact and flexural fracture (see col. 11, lines 5-36). The compressive stress aspect of the composite sandwich structure of Meissner is undesirable in Applicant's claimed substrate since a match of coefficients-of-thermal expansion assist in maintaining flatness. In view of at least the foregoing remarks, Applicant respectfully submits that Claim 1 and dependent Claims 2, 4, 9, 13-14, 16 and 20-21 are patentable over Glazer and Meissner, alone or in any suggested combination and the rejection should be withdrawn.

Claim 14 was also rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Glazer and Meissner as applied to claim 1 and further in view of Kuroita. The matching coefficients-of-thermal expansion recitation distinguishes the substrate of claim 1 over Glazer and Meissner and claim 14 notwithstanding Kuroita's mention of a preferred particle size since the Examiner's suggested combination still lacks all of the recited elements. Accordingly, Applicant respectfully submits that dependent Claim 14 is patentable over Glazer and Meissner and further in view of Kuroita and the rejection should be withdrawn.

Claim 38 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Glazer in view of Sun. It is respectfully noted that Sun has an issue date of 10 Oct 2000, which occurred after the effective filing date of 30 Aug 2000 accorded the present claims (see the Examiner's discussion in the "priority" section of the official action page 2 para. 3). Since Sun was an unpublished pending U.S. application as of the priority date of the present claims Sun is not available as a reference against instant claims 38 and 39 (MPEP § 901.03). Thus, for example, the following rejections are moot in view of the unavailability of Sun:

8. Claim 38 rejected under 35 U.S.C. 103(a) over Glazer (US 6,824,866) in view of Sun (US 6,129,603).
9. Claim 39 rejected under 35 U.S.C. 103(a) over Glazer in view of Sun in further view of Meissner (US 5,441,803).
12. Claim 38 rejected under 35 U.S.C. 103(a) over Havens (US 6,306,348) in view of Sun.

13. Claim 39 rejected under 35 U.S.C. 103(a) over Havens in view of Sun in further view of Meissner.

Accordingly, Sun should be removed as a reference and the above Sun combination rejections withdrawn.

Claims 1, 2, 4, 13, 22, 25, 31 and 38 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Havens (US 6,306,348) in view of Meissner (US 5,441,803).

With respect to Claim 1 and its dependent claims, Havens does not teach the recited glass interlayer between the porous layer and the non-porous. As discussed above, Meissner mentions a diffusion bonded device which includes a first, a second, and a third glass containing material, where the third material is positioned between the first and second materials but the intervening third material has a coefficient of thermal expansion higher than the first and second glass materials (e.g., see col. 6, lines 12-34 and col. 11, lines 5-36) and therefore does not satisfy the recited "matching coefficients" condition. Thus, Havens and Meissner are not applicable since the combination fails to teach or suggest every aspect recited in amended Claim 1. It would not have been obvious from the cited references to "match coefficients" of the structural components recited in Claim 1. Accordingly, Applicant respectfully submits that Claim 1 and its dependent claims are patentable over Havens in view of Meissner, alone or in any suggested combination, and the rejection should be withdrawn.

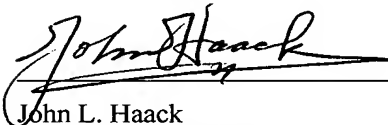
Claim 14 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Havens in view of Meissner in further view of Kuroita. The above remarks regarding Havens and Meissner are incorporated here in their entirety. The Examiner's suggested combination with Kuroita (regarding a preferred particle size) still lacks the recited "matching coefficients" condition of claim 1 as incorporated into claim 14. Accordingly, Applicant respectfully submits that dependent Claim 14 is patentable over Havens and Meissner and further in view of Kuroita, and the rejection should be withdrawn.

Conclusion

Applicant respectfully submits that all rejections have been properly overcome or are moot. Accordingly, Applicant respectfully requests reconsideration of all outstanding objections and rejections and allowance of pending Claims 1, 2, 4, 9, 13-14, 16, 20-21 and 38-39.

It is believed that a one month extension of time permitting a timely response is due for this paper. If this is incorrect, the Commissioner is authorized to charge any fees which may be required for this paper to Deposit Account No. 03-3325.

Respectfully submitted,

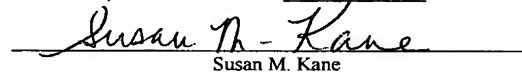


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CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8:

I hereby certify that this paper and any papers referred to herein are being deposited with the U.S. Postal Service, as first class mail, postage prepaid, addressed to Mail Stop Amendments, Commissioner of Patents, P.O. Box 1450, Alexandria, Va 22313-1450 on January 17, 2008.


Susan M. Kane